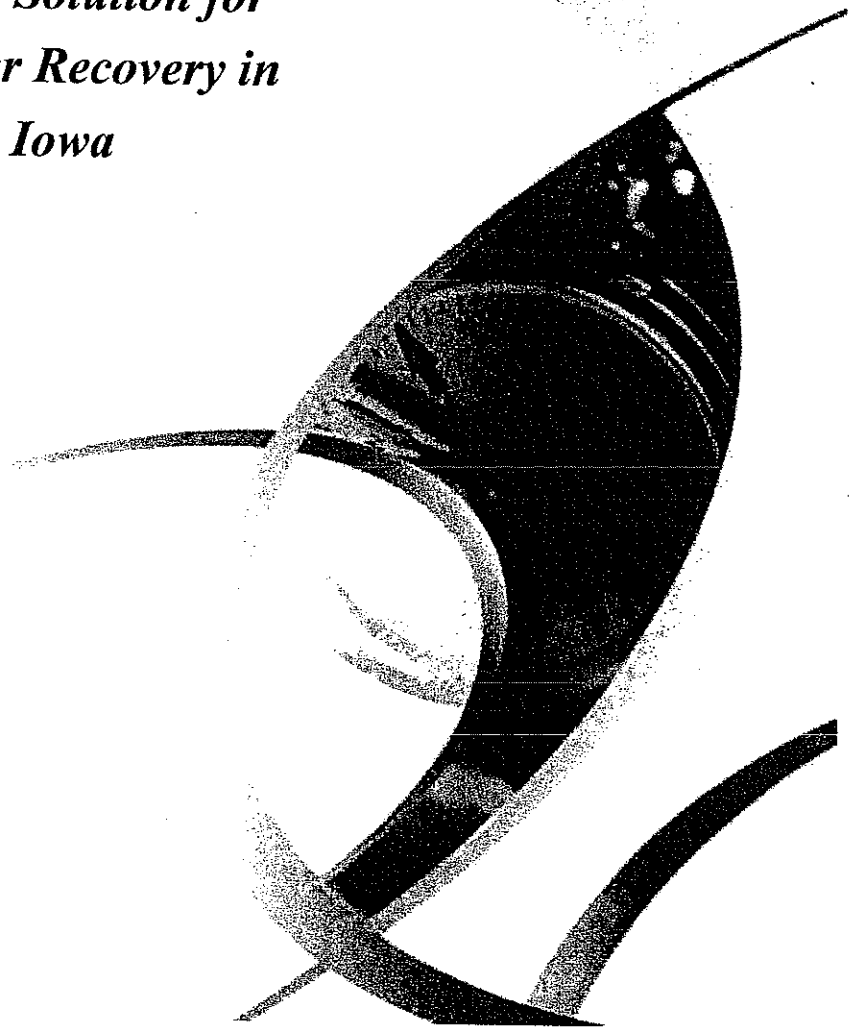§sas. | Public Sector

A SAS Solution for Disaster Recovery in Iowa

The Power to Know.

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Public Sector

SAS Disaster Recovery and Preparedness Solutions

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Business Intelligence in Disaster Recovery

The state of Iowa suffered massive flooding due to torrential and lasting rains. The disaster ranks as one of the largest in state history. This has brought the full force of local, state and national recovery, mitigation and future preparedness issues to the impacted states. With that, many sources of funds are funneling into the states that are designed to assist with the recovery process. For example:

> FEMA Individual and Housing Program (IHP)

> FEMA Temporary Housing

> FEMA Public Assistance

> FEMA Hazard Mitigation

> CDBG funds

> Federal Highway Funds

> Small Business Administration

> USDA disaster recovery funds

These funds flow through the state agencies who would administer them under normal circumstances. However, the amount of money included in many of these disaster programs often dwarfs the annual budgets of the given agencies and far exceeds the managerial capacity within the agencies. Additionally, each source of funds has its own specific set of rules and requirements both for accounting purposes and in terms of how the money may be used. Commingling of funds is often not allowed. Using Federal dollars as match for other Federal dollars is allowed sometimes and other times not. Insurance policies must be accounted for prior to expending Federal dollars on certain projects. How are all of these issues addressed and managed?

These issues have become so large that Iowa has created a long term recovery task force. North Carolina created a very similar task force after Hurricane Floyd in 1999. These task forces are assigned the responsibility for creating an overall recovery strategy. However, based

on the above mentioned issues this may prove to be an almost impossible task to manage and certainly to measure without the proper tools. Additionally, ensuring that all the rules associated with the multiple funding sources are followed so that no dollars are de-obligated at a later date is paramount to allowing projects to move forward.

Comprehensive strategies must be set that will incorporate all of this information and all of the related requirements from the multiple sources of funding. That strategy needs to be continually reviewed and measured for performance. For instance, recently a requirement to rebuild homes at three feet above flood level was passed. What are the long term impacts of this decision? How many people will decide not to rebuild due to the costs associated with this policy? How does that change in population impact services and utility recovery requirements? How does that impact debris removal priorities or road reconstruction? Should schools be rebuilt to the same capacity as prior to the storm, greater capacity, or moved to new locations due to population changes?

These are sample issues that can arise from each recovery decision. A state should be able to predict to some degree of certainty what impacts any decision will have. In order to do this the decision makers must be as well informed as possible and have the tools and talent around them to ask these types of questions. These questions can then only be answered if all the information is at hand and if the policy questions can be applied to that information so that impacts can be predicted, progress can be measured and course corrections can be incorporated.

Questions

The basic questions are: Where are we? This question can only be addressed by having all relevant information from all sources at hand at all times. This is a reporting function. Where are we going? This question must allow for the impacts of all decisions to be predicted so that the proper course for recovery can be set. This is a function of predictive analytics. And, as the process of recovery goes, how are we doing? This requires goal setting based on the predictive capacity mentioned above and the measurement of progress toward those goals. It also involves making course corrections and then repeating the process

of predicting the impacts of those corrections. How do we track all the funds, with all their requirements so that future audits are not a concern? Creating audit trails that account for all associated rules is paramount in the recovery process. Post-disaster audits have historically been very difficult to pass and multiple examples of de-obligated funds exist. States can't usually afford to give money back to the Federal government after spending 2, 3 or more years recovering.

Where are we?

This is the first question that must be answered. In order to answer it, information from every source of funding must be compiled in a central repository so that it can be verified as accurate and compiled with all the other recovery data to create a single version of the truth regarding recovery. The issues with doing this are:

> ➢ Multiple funding streams

> ➢ Multiple agencies

> ➢ Individual management systems

> ➢ Specific business and accounting rules for each funding source

> ➢ Information in disparate places across state government

Each source of funding is managed by a state agency that has some sort of information processing system and method of accounting for the funds. These are transactional systems that can provide a picture of where that transactional system is at that point in time. For instance, how much money have we spent to date, on what projects and in what location was the money spent. These are historically based reports. These reports provide a look at only their respective programs. They do not combine with any other program from any other agency. So, to answer the question of "where are we" a recovery group such as Rebuild Iowa would have to receive these types of reports from the multiple agencies described above.

A better solution to this process is to utilize a tool that can link all of these sources of information in one place. The tool should not require any changes to the current systems, it should only draw the information out of them and place it in a centralized repository so that it can then be

manipulated, analyzed and reported on. This should be an automated process that is web enabled for easy management and access. SAS Business Intelligence Server provides these capabilities. SAS can link to all the data sources that the RIO may need to access. It can bring the information into a single repository, manipulate it and report on it. This cuts down on the reporting requirements for each agency, allowing them to focus on their programs instead of constantly providing information to decision makers. These agencies will be able to spend more time serving their constituencies.

Where are we going?

This is a function of analytics. The data collection function that occurred during the "where are we" process creates a tremendous source of information about the disaster and the disaster recovery process. As the multiple sources of information are gathered in one place, a true picture of the entire disaster management process is created. Which sources of funding are being dedicated to which projects? Is there overlapping funding and/or projects? The answers to these questions and the abundance of information gathered earlier can be utilized to see where the unmet needs exist and policy decisions can be suggested for these deficiencies. As these decisions are made and policies suggested, their impacts can be predicted using forward looking analytical tools. This process will allow the state to attempt to measure the impacts of each decision prior to implementation.

Many of the recovery programs operate in a vacuum, without assessing their impacts on other programs. This requires the predictive capabilities that SAS brings to the table. Predicting the impacts of all options based on multiple sources of funds will allow the state to utilize the resources in the most effective manner. The state must take into accounting the specific rules associated with each source, what its needs are and what options exist as a result of these rules. This all can be done utilizing tools that collect all the information available, analyzing it and making the most informed decision possible.

How are we doing?

This is a function of measuring progress against goals, score carding. Once the above processes are completed, the progress of the recovery must be measured to determine if goals are being met or if they should be adjusted based on any changes. These goals are determined in the "where are we going" stage. Setting the goals, however, is only a part of the overall process. Constantly measuring the progress toward achieving those goals is the only way to ensure that they will be attained. Complete recovery takes years. Without consistently measuring and managing progress, this process will take even longer.

The goals established during "where are we going" need to be assigned some values to be measured against. However, we must be sure to measure the right things. For instance, instead of measuring the individual projects, measuring overall recovery of an area to include all the projects as they are linked to each other will facilitate true overall recovery. These measures need to be displayed on a dashboard or scorecard that is updated daily and put in front of the responsible parties so that their daily decisions can be made with all relevant information at their fingertips. This includes the ability to drill down into each measure to determine all the information that goes into the display. Analytical capabilities must be included in this dashboard so that decision makers can see how alternatives to the current course may alter the progress of the recovery.

Audits and tracking the money

All of the funding sources that are pouring into the state have to be accounted for and audited. This is always a very difficult part of the recovery process. FEMA will deobligate funds if eligibility rules are not followed specifically. Often, the rules for disaster recovery money may not match with agencies daily accounting practices. This is a tremendous burden on those assigned to account for the funds that they administer throughout the recovery process. This requirement often causes additional staff to be hired, or, takes current staff away from current important functions in order to track the recovery dollars.

A more cost effective and efficient solution is to employ a tool that simply sits on top of all the current accounting systems and can track to disaster specific dollars within each of those systems. This tool should also account for the differences in documentation requirements and rules. SAS can access any system that may be in place and incorporate the business rules of each funding source so that money can be tracked correctly and with fewer staffing requirements.

Corporate Overview

Headquartered in Cary, North Carolina, SAS is the largest privately held software company in the world. Our mission is to deliver superior software and services that give people the power to make the right decisions. We want to be the most valued competitive weapon in government decision making.

Founded in 1976, SAS serves more than 40,000 government, university, and business sites in 118 countries. SAS solutions are used extensively by all 15 major federal departments and approximately eighty-five percent (85%) of federal sub-agencies and quasi-governmental affiliates. Ninety percent (90%) of the overall Fortune 500 are SAS customers. We are the world leader in business-intelligence software and services, enabling customers to turn raw data into usable knowledge.

SAS developed its first business intelligence solution in the early 1970s at North Carolina State University. This product, base SAS, was originally developed to analyze agricultural data on IBM mainframes. Over the years, the SAS System has evolved to become a complete information delivery system, including more than 25 fully integrated, modular applications that allow an organization complete control over its data—from data access, to data management, to data analysis, to presentation.